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ABSTRACT

Many private schools administer some type of standardized test to prospective students in an attempt to assess the student's potential for success in high school. The test results are used to assist the school in deciding whether to accept the student or to assist in the placement of the student in the appropriate curriculum level. This study examined the relationship between the composite scores of the Scholastic Testing Service High School Placement Test (HSPT), American College Test (ACT), and the final high school grade point average (GPA) for all Central Catholic High School Students (Toledo, Ohio) in the class of 1993 (GPA for 321 students, ACT for 264). Results indicated significantly high correlations between HSPT composite scores and GPA as well as HSPT composite scores and ACT scores. Likewise, the results showed significant correlation between ACT composite scores and GPA. The conclusion is that there exists a strong positive relationship between HSPT composite scores, ACT scores, and GPA for Central Catholic students. One table lists cases and standard deviations for variables. (Contains 5 references.) (Author)

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The Relationship Between High School Placement Test Scores, ACT Scores, and GPA's for Central Catholic High School Students

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Abstract

Many private schools administer some type of standardized test to prospective students in an attempt to assess the student's potential for success in high school. The test results are used to assist the school in deciding whether to accept the student and or to assist in the placement of the student in the appropriate curriculum level. This study examined the relationship between the composite scores of the Scholastic Testing Service High School Placement Test (HSPT), American College Test (ACT), and the final high school grade point averages for all Central Catholic students in the class of 1993. Test scores were obtained from the students' permanent records. Results indicated significantly high correlations between HSPT composite scores and GPA as well as HSPT composite scores and ACT scores. Likewise, the results showed a significant correlation between ACT composite scores and GPA. The conclusion is that there exists a strong positive relationship between HSPT composite scores, ACT scores and GPA for Central Catholic students.

The Relationship Between

High School Placement Test Scores, ACT Scores, and GPA's

for Central Catholic High School Students

Like many private schools, Central Catholic High School administers a standardized placement test to prospective students. For some private schools the test results are the key determining factor as the whether or not the student will be accepted into the school. Other schools, like Central Catholic, use the test results as one of many assessment factors in an attempt to place the student in the most appropriate course level and to identify any skill deficiency which may require special assistance. The process of assessing a student's potential for success and the proper placement is not easy, especially since many of the other assessment factors such as elementary grades can fluctuate greatly from one school to the next. A reliable and valid placement test can greatly assist in the placement process.

All catholic schools in Toledo administer the Scholastic Testing Service High School Placement Test (HSPT). The first question raised by the principal and a guidance counselor at Central Catholic High School is whether there is a relationship between the composite score on the HSPT and the student's final high school GPA. In addition they inquired whether there is a relationship between the student's HSPT composite score and their ACT score and finally they questioned the degree to which the ACT composite scores relate to GPA. While the principal and counselor have assumed that a positive relationship exists, that is that high scores on one test correlate with high scores on the other test, the school has never conducted a formal study. Correlational results which indicate a significant positive relationship between HSPT composite score and GPA would reaffirm the school's decision to continue to use the HSPT as one of the key assessment tools in the placement process. In addition a significant correlation between the HSPT and

ACT would assist the guidance counselors in assessing student potential and assist in advising students preparing for the ACT.

The difficulties in assessing a student's potential for success is not uncommon to colleges and universities as they attempt to use reliable and valid assessment tools in their acceptance deliberations. Many studies have been conducted examining the use of the ACT composite score and high school GPA as predictors of college GPA. Results from such studies indicate that a significant relationship does exist (e g., Myers, 1992). While a high correlation exists between ACT scores and college GPA, high school GPA may be a better predictor of college success (e.g., Bontekoe, 1992; Thornell, 1986).

While many studies examine the relationship between achievement tests, high school GPA and college GPA few studies look at such relationships at the secondary level. A study of the reliability and validity of using achievement test to predict academic performance of students over time used multiple regression analysis to show that fourth grade achievement test scores were powerful predictors of tenth grade performance (Hotard, 1983). In a similar study, the relationship between the Iowa Tests of Basic Skills and the Iowa Tests of Educational Development, and high school GPA indicated that a significant relationship does exist (Loyd, 1980).

At this time, research would indicate that a significant relationship does exist between ACT composite scores, high school GPA and college GPA. While fewer studies examine this relationship on the secondary level, research does suggest that a reliable and valid achievement test can be used to predict GPA at the high school level. The focus of this study was to answer four relational questions in regard to HSPT score, ACT and high school GPA.

1. What is the relationship between HSPT composite scores and the final GPA for Central Catholic students?

2. What is the relationship between HSPT composite scores and ACT for Central Catholic students?

3. What is the relationship between ACT composite scores and final GPA for Central Catholic students?

4. If both HSPT and ACT are significantly correlated with GPA, then which one is a better predictor?

The following study was designed to answer these four questions.

METHOD

Subjects

The data for the study was obtained from the records of the 1993 Class of Central Catholic High School. Besides the convenience of access, there were several reasons for using this class as the source of data for the study. First, the data from the most recent class was not available at the time of the study. Second, the class of 1992 used a different placement test then the HSPT and, third, it was the judgment of the principal and counselor that the Class of 1993 was a good representation of the students who attend Central Catholic High School.

The Class of 1993 numbered 322 and was comprised of 757 females and 656 males. The racial and ethnic composition was 281 white, 30 black, nine Hispanic, and two American Indian. The age distribution was 86 were 17 years old, 217 were 18 years old, and 19 were 19 years or older. A total of nine members of the class did not meet the graduation requirements and did not graduate, but their scores are included in the study.

Instruments

The focus of the study required the comparison of three scores for each student, the composite scores from the HSPT, ACT and the final grade point average for all

members of the class. The HSPT is a standardized placement test developed by Scholastic Testing Service. The test was administered to members of this class when they were eighth grade students. The test measures both cognitive and academic skills. The composite score is the sum of the raw scores on the five tests converted into a standard score. The composite score is used as the single best indicator of how well a student can be expected to perform in high school. Test reliability as calculated by the KR 21 method was .96 for composite reliability and the concurrent validity for composite score correlation ranged from .70 to .88 (John Kauffman, personal communication, June 16, 1994).

The ACT Assessment consists of four academic tests which measure ability in English, mathematics, social studies and natural science. The composite score is the average of scores of the four tests and is used as a measure of overall educational development. Composite scores are reported on a scale from one to thirty-six. The ACT reliability is .96 as determined by the split half method and the predicted validity is .56 with college freshmen GPA (Dr. James Maxey, personal communication, June 13, 1994).

The GPA used in the comparison study was the final high school GPA.

Procedure

Permission to record the data was given by the principal. All scores were obtained by recording the data from the students' permanent file. These records are stored on microfilm in the main office. It should be noted during the recording of the data one of the student's records was missing and this accounts for the discrepancy between the number of students in the class, 322 and the number of students records used in the study, 321.

Results

Table 1 contains the descriptive statistics for each of the three variables in the study.

Table 1

Number of Cases, Mean, and Standard Deviation for Variables

Variable	Number of Cases	Mean	Standard Deviation
HSPT	305	52.39	26.55
ACT	264	20.12	3.92
GPA	321	2.66	.77

A Pearson product-moment correlation resulted in a significant positive correlation between HSPT composite scores and GPA, $r = .63$, $p < .01$. A significant positive correlation was also found between HSPT composite scores and ACT, $r = .83$, $p < .01$. The third correlation between ACT composite scores and GPA also resulted in a significant positive correlation, $r = .70$, $p < .01$. Scatter grams showed a positive linear relationship.

A stepwise multiple regression resulted in a multiple R of .70 for the ACT variable, the HSPT variable was not cited.

Discussion

The results of the studyed show a significant positive correlation for all three relationships: HSPT composite scores and GPA, HSPT composite score and ACT, and ACT composite score and GPA. The ACT was the best predictor of GPA. These results are consistent with the research literature which showed that ACT composite scores were a predictor of college GPA (Bontekoe,1992; Myers, 1992) and that achievement tests can be used as predictors of high school GPA (Hotard, 1983; Loyd, 1980). It should be noted that the subjects of this study were from a single class, and while it is believed that this class is similar to other classes caution needs to be exercised in generalizing the results to a larger or different group.

The High School Placement Test is an important assessment tool in the placement process. The results of the study indicate that because of the significant positive relationship between the HSPT composite score and the final GPA, it is recommended that the school continue to use this assessment tool as it places students in the appropriate level of classes at Central Catholic High School.

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